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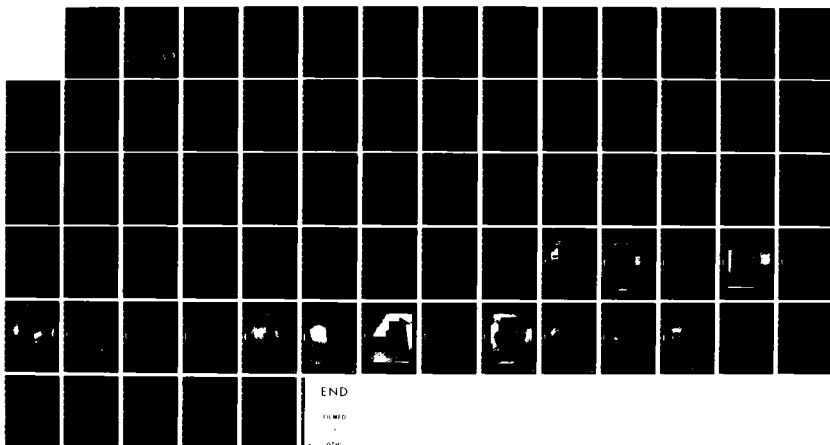
AFRICAN DOPPLER SURVEYS (ADOS) (U) DEFENSE MAPPING
AGENCY HYDROGRAPHIC/ TOPOGRAPHIC CENTER WASHINGTON DC
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report outlines a brief summary of the work, as of 15 June 1983, performed by the Defense Mapping Agency (DMA) under the African Doppler Survey (ADOS) project. In order to utilize the many Doppler surveys already completed (prior to ADOS) in Africa, a detailed search of the DMA's data bank was carried out during January-March 1983. The existing data, which showed promise of meeting the ADOS technical specification, were carefully sorted out, processed, computed and released to other ADOS Computing Centers.		

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STATUS REPORT
ON
AFRICAN DOPPLER SURVEYS
(ADOS)



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Hydrographic/Topographic Center
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ABSTRACT

This report outlines a brief summary of the work, as of 15 June 1983, performed by the Defense Mapping Agency (DMA) under the African Doppler Survey (ADOS) project. In order to utilize the many Doppler surveys already completed (prior to ADOS) in Africa, a detailed search of the DMA's data bank was carried out during January-March 1983. The existing data, which showed promise of meeting the ADOS technical specification, were carefully sorted out, processed, computed and released to other ADOS Computing Centers.

1. INTRODUCTION

The idea of an African continental network, which originated during the First U.N. Regional Cartographic Conference at Nairobi, Kenya in 1963, got the necessary support from the international community in subsequent years to crystallize into a reality. Through continued efforts of the IAG Commission for Space Techniques for Geodesy and Geophysics (CSTG) and the Commission for Geodesy in Africa (CGS), the detailed proposals evolved during the meetings at Addis Ababa, Ethiopia in November 1980 and at Nairobi, Kenya in November 1981 (CSTG, 1981).

Since then, the African Doppler Survey (ADOS), as the project is called now, has made great progress. Follow-up international meetings at Las Cruces, USA in February 1982, Tokyo, Japan in May 1982, Ermioni, Greece in September 1982 and Cairo, Egypt in March 1983 have helped in reviewing the progress and in generating the renewed international impetus for the project (CSTG, 1982).

Under the ADOS project planning, the Defense Mapping Agency Hydrographic/Topographic Center (DMAHTC) was given the responsibility of coordinating the observational data flow (Figure 1) between the "sister" nations and the designated ADOS Computing Centers; No. 1- European Consortium, UK, No. 2- Regional Computing Center, Kenya and No. 4- Northwest African Consortium, Algeria (DMAHTC also functions as an additional Computing Center No. 3.). During March and April 1983, DMAHTC searched its Doppler data bank for surveys recently completed in Africa and sorted out available data which would meet ADOS technical specifications.

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The selected observational data sets for 17 countries, together with the appropriate Precise Ephemeris (PE), were exchanged with the Computing Centers between April and June 1983. The DMAHTC Computing Center also computed the station coordinates from the selected data sets.

This progress report summarizes the ADOS data exchange and computational activities performed as of 15 June 1983 by the DMAHTC as the designated Computing Center.

2. DATA DISTRIBUTION

2.1 Observational Data

The DMAHTC Doppler data bank holds extensive information regarding worldwide Doppler surveys. The data contributions have come from various agencies, organizations and universities; both national and international. These data sets include surveys performed in African countries prior to the formalization of the ADOS project.

A detailed search of existing African Doppler survey data established the availability of the data sets for the ADOS project, and provided a preliminary evaluation for quality, density and geographic distribution (CSTG, 1983).

ADOS Forms No. 5 (Appendix A) give the latest list by country of selected ADOS stations for which Doppler data were available in the DMAHTC data bank as of 15 June 1983. The forms included in this report have been updated since their first compilation in April and June 1983, and the information has been further summarized in Table 1.

TABLE 1
ADOS DATA EXCHANGE
(As of 15 June 1983)

Country	Doppler Data Exchanges with Computational Centers
1. Botswana	9
2. Canary Is.	1
3. Cape Verde Is.	7
4. Egypt	16
5. Gambia	1
6. Guinea	3
7. Ivory Coast	9
8. Lesotho	5
9. Liberia	4
10. Malawi	6
11. Mali	1
12. Mauritania	1
13. Senegal	10
14. Sudan	3
15. Swaziland	4
16. Zaire	1
17. Zimbabwe	6

The actual distribution dates of two sets of data tapes to ADOS Computing Centers No. 1 and 2 are listed in Appendix B. DMAHTC has provided only ADOS test data to Computing Center No. 4 in Algiers, Algeria, which was agreed upon for operation at the Cairo meeting in March 1983. A third set of data tapes containing the observed data for stations in Table 1 is being kept at DMAHTC and will be sent to the Computing Center No. 4 when it becomes operational.

In the Cape Verde Islands, the ADOS stations were selected on the basis of at least one station per major island, if suitable data were available. The first selection of ADOS stations in Ivory Coast was made from available British data. When the DMAHTC Computing Center was able to read the data from West Germany, three new stations were also selected to strengthen the Ivory Coast network.

2.2 Precise Ephemeris

Together with the observational data for the ADOS stations in 17 countries (Section 2.1), the DMAHTC Computing Center also provided the appropriate PE needed for computations at the other designated ADOS Computing Centers. The PE information for five satellites of the Navy Navigation Satellite System (NNSS) was supplied as per actual availability.

3. ADOS COMPUTATIONS

As the ADOS observational data and the PE were being distributed to Computing Centers No. 1 and 2 (Appendix B), DMAHTC (in its role as one of the other designated computing centers) followed an extremely busy schedule of computing the selected ADOS stations. Eighty-seven computed ADOS stations, as of 15 June 1983, have been plotted by country in Appendix C. Computed station coordinates are tabulated in Appendix D.

4. PRELIMINARY EVALUATION

ADOS station No. ACV006 (DMAHTC No. 31177) in the Cape Verde Islands and ADOS station No. ASG007 (DMAHTC No. 80513) in Senegal failed to meet the ADOS technical specification during computations, and thus have been omitted from Appendix C. In Egypt and the Ivory Coast, the ADOS stations were observed by more than one "sister" nation and each nation's contribution has been plotted using different symbols.

The ADOS station No. AIV002 (from British data) at Abidjan in Ivory Coast may be identical with the station No. AIV009 (from West German data). This dual numbering will need reconciliation, if the two sets of observations are for the same station site.

As the ADOS technical specifications require computations with a cut off angle of 10° , many selected stations during ADOS computations failed to meet the lower limit of 40 passes (Table 2). Stations with 25 to 39 passes have been provisionally retained (shown with an "open" symbol in Appendix C), pending final acceptance under the ADOS project.

TABLE 2
ADOS COMPUTATIONAL STATUS
(As of 15 June 1983)

Country	Computed ADOS Stations			
	Total Stations	with 40 or more Passes	with 25 to 39 Passes	with 20 or less Passes*
1. Botswana	9	6	3	-
2. Canary Is.	1	1	-	-
3. Cape Verde Is.	7	1	5	1 (ACV006)
4. Egypt	16	5	11	-
5. Gambia	1	1	-	-
6. Guinea	3	2	1	-
7. Ivory Coast	9	8	1	-
8. Lesotho	5	5	-	-
9. Liberia	4	-	4	-
10. Malawi	6	6	-	-
11. Mali	1	1	-	-
12. Mauritania	1	-	1	-
13. Senegal	10	7	2	1 (ASG007)
14. Sudan	3	-	3	-
15. Swaziland	4	4	-	-
16. Zaire	1	-	1	-
17. Zimbabwe	6	6	-	-
	87	53	32	2

*Not plotted in Appendix C.

5. ACKNOWLEDGEMENT

This is to acknowledge the valuable contributions of Messrs. Randall Keener, Kenneth Murphy, Joseph Corio and Bernard Staley, and Ms. Theresa Jasper and Mayra I. Rodriguez; whose hard work ensured the timely completion of all the progress reported here.

REFERENCES

- CSTG, 1981. "Proposal for African Doppler Survey (ADOS)," Special Bulletin of the International Coordination of Space Techniques for Geodesy and Geophysics (CSTG), IAG Commission VII, Columbus, Ohio.
- CSTG, 1982. "International Activities," Bulletin No. 4, CSTG, IAG Commission VII, Columbus, Ohio.
- CSTG, 1982. "Technical Specifications for the African Doppler Survey (ADOS), General Information-Field Work," SCS Publication No. 1, Columbus, Ohio.

APPENDIX A

REPORTING NATION: DMAHTC

ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)

SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: UP TO 31 MARCH 1983

MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
BOTSWANA						
BC	ABC001 (30672)	Lat. S 25° 00' Long.E 25 19	OCT 1976	YES		YES For details see Appendix B
BC	ABC002 (30673)	Lat. S 21 09 Long.E 27 31	DEC 1976	YES		"
BC	ABC003 (30674)	Lat. S 21 42 Long.E 21 29	NOV 1976	YES		"
BC	ABC004 (30675)	Lat. S 19 49 Long.E 23 38	NOV 1976	YES		"
BC	ABC005 (30677)	Lat. S 18 45 Long.E 21 43	NOV 1976	YES		"
BC	ABC006 (30678)	Lat. S 21 24 Long.E 24 40	DEC 1976	YES		"
BC	ABC007 (30679)	Lat. S 26 06 Long.E 22 22	OCT 1976	YES		"
BC	ABC008 (30680)	Lat. S 21 54 Long.E 28 55	DEC 1976	YES		"

(OVER)

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
BOTSWANA						
BC	ABC009 (30676)	Lat. S 17° 54' Long. E 25 13	NOV 1976	YES		YES For details see Appendix B
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

MAILED TO: Comp. Cen. No. 1 - Dr. B. Sikilo, Regional Center for Services in Surveying and Mapping, Nairobi, Kenya.
 Comp. Cen. No. 2 - Dr. John Critchley, Mapping and Charting Establishment RE, Elmwood Ave, Feltham, Middlesex TW13 7AF, U.K.
 Comp. Cen. No. 3 - Dr. M. Kumar, DMAHTC, 6500 Brookes Lane, Washington, D.C., 20315, U.S.A.
 IAG/CSTG - Dr. I.I. Mueller, Dept. of Geodetic Science, The Ohio State University, Columbus, OH , 43210, U.S.A.

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COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES Yes/ No	
CANARY IS.	(DMAHTC NO.)			Estimated Completion Month	
SP	ASP001 (30970)	Lat. N 28° 29' Long. W 16 19	OCT 1978	NO	*
		Lat. Long.			YES For details see Appendix B
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			

*Not known at this time.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES	
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COUNTRY CODE CAPE VERDE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
CV	ACV001 (31176)	Lat. N 16° 50' Long.W 24 58	NOV 1979	YES		YES For details see Appendix B
CV	ACV002 (31175)	Lat. N 16 33 Long.W 24 21	NOV 1979	YES		"
CV	ACV003 (31121	Lat. N 16 36 Long.W 22 53	NOV 1979	YES		"
CV	ACV004 (31180)	Lat. N 16. 05 Long.W 22 50	DEC 1979	YES		"
CV	ACV005 (31179)	Lat. N 15 09 Long.W 23 13	DEC 1979	YES		"
CV	*ACV006 (31177)	Lat. N 14 55 Long.W 23 29	DEC 1979	YES		"
CV	ACV007 (31178)	Lat. N 14 54 Long.W 24 30	DEC 1979	YES		"
		Lat. Long.				

*Station rejected; insufficient data

DOPPLER STATION INFORMATION			SURVEY STATUS			DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No	Estimated Completion Month	
		Lat. Long.				
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COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
EGYPT						
EG	AEG001 (30917)	Lat. N 23° 56' Long. E 35 24	JAN 1978	YES		YES For details see Appendix B
EG	AEG002 (20429)	Lat. N 29 52 Long. E 32 30	DEC 1977	NO	*	"
EG	AEG003 (20427)	Lat. N 31 31 Long. E 31 51	NOV 1977	NO	*	"
EG	AEG004 (30914)	Lat. N 24 02 Long. E 32 50	FEB 1978	YES		"
EG	AEG005 (30910)	Lat. N 31 19 Long. E 27 18	DEC 1977	YES		"
EG	AEG006 (31529)	Lat. N 22 17 Long. E 29 47	DEC 1982	NO	*	"
EG	AEG007 (30915)	Lat. N 25 32 Long. E 30 39	FEB 1978	YES		"
EG	AEG008 (30909)	Lat. N 28 23 Long. E 29 06	NOV 1977	YES		"

(OVER)

*Not known at this time.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)		
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES			
				Yes/ No			Estimated Completion Month
EGYPT							
EG	AEG009 (30911)	Lat. N 29° 26' Long. E 25 31	DEC 1977	YES		YES For details see Appendix B	
EG	AEG010 (31519)	Lat. N 26 01 Long. E 27 56	NOV 1982	NO	*	"	
EG	AEG011 (31546)	Lat. N 25 58 Long. E 25 45	DEC 1982	NO	*	"	
EG	AEG012 (31515)	Lat. N 28 01 Long. E 27 00	NOV 1982	NO	*	"	
EG	AEG013 (31539)	Lat. N 22 04 Long. E 25 59	DEC 1982	NO	*	"	
EG	AEG014 (31538)	Lat. N 24 02 Long. E 26 49	DEC 1982	NO	*	"	
EG	AEG015 (30908)	Lat. N 30 57 Long. E 29 32	DEC 1977	YES		"	
EG	AEG016 (30916)	Lat. N 26 01 Long. E 34 19	JAN 1978	YES		"	
		Lat. Long.					

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AFRICAN DOPPLER SURVEY (ADOS)

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(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: UP TO MAY 1983

MAILING DATE: 1 JUNE 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES'		
				Yes/ No		Estimated Completion Month
GAMBIA						
GA	AGA001 (80493)	Lat. N 13° 29' Long. W 16 40	APR 1982	*		YES For details see Appendix B
		Lat. Long.				
		Lat. Long.				
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		Lat. Long.				

*No information available for geodetic ties.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
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AFRICAN DOPPLER SURVEY (ADOS)SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: Up to May 83MAILING DATE: 1 June 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE Guinea	STATION NAME AND ADOS NO. (DMAHTC No.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
GV	AGV001 (80505)	Lat. 12° 05' N Long. 12 18 W	June 1982	*		YES For details see Appendix B
GV	AGV002 (80517)	Lat. 11° 29° N Long. 11 50 W	June 1982	*		"
GV	AGV003 (80533)	Lat. 12° 26' N Long. 13 38 W	June 1982	*		"
		Lat. Long.				
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		Lat. Long.				
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		Lat. Long.				

*Geodetic tie information not available.

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				Yes/ No	Estimated Completion Month	
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REPORT PERIOD: UP TO 31 MARCH 1983MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE IVORY COAST	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
IV	AIV001 (31246)	Lat. N 04° 25' Long.W 07 21	APR 1980	NO	*	YES For details see Appendix B
IV	AIV002 (31252)	Lat. N 05 20 Long.W 04 00	JUL 1981	NO	*	"
IV	AIV003 (31245)	Lat. N 07 42 Long.W 05 00	APR 1980	NO	*	"
IV	AIV004 (31247)	Lat. N 07 15 Long.W 08 09	APR 1980	NO	*	"
IV	AIV005 (31248)	Lat. N 09 30 Long.W 07 34	APR 1980	NO	*	"
IV	AIV006 (31390)	Lat. N 07 58 Long. W 06 41	JUN 1981	NO	*	"
		Lat. Long.				
		Lat. Long.				

*Not known at this time.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
			DOPPLER (Month fin- ished)	GEOD. TIES		
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES		Yes/ No	Estimated Completion Month	
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

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Comp. Cen. No. 2 - Dr. John Critchley, Mapping and Charting Establishment
RE, Elmwood Ave, Feltham, Middlesex TW13 7AF, U.K.
Comp. Cen. No. 3 - Dr. M. Kumar, DMAHTC, 6500 Brookes Lane, Washington,
D.C., 20315, U.S.A.
IAG/CSTC - Dr. I.I. Mueller, Dept. of Geodetic Science, The Ohio State
University, Columbus, OH , 43210, U.S.A.

REPORTING NATION: DMAHTC

ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: Up to May 83MAILING DATE: 1 June 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE Ivory Coast	STATION NAME AND ADOS NO. (DMAHTC No.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
IV	AIV007 (80485)	Lat. 08° 03' N Long. 02° 48 W	Feb 1982	*		YES For details see Appendix B
IV	AIV008 (80544)	Lat. 09° 59' N Long. 05° 10 W	Feb 1982	*		"
IV	AIV009 (80543)	Lat. 05° 20' N Long. 04° 00 W	Feb 1982	*		"
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

*Geodetic tie information not available.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES	
				Yes/ No	
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			

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 Comp. Can. No. 2 - Dr. John Critchley, Mapping and Charting Establishment RE, Elmwood Ave, Feltham, Middlesex TW13 7AF, U.K.
 Comp. Can. No. 3 - Dr. M. Kumar, DMAHTC, 6500 Brookes Lane, Washington, D.C., 20315, U.S.A.
 IAG/CSTG - Dr. I.I. Mueller, Dept. of Geodetic Science, The Ohio State University, Columbus, OH , 43210, U.S.A.

REPORTING NATION: DMAHTC

ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: UP TO 31 MARCH 1983MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
LESOTHO						
LT	ALT001 (31017)	Lat. S 30° 26' Long. E 27 36	JAN 1979	YES		YES For details see Appendix B
LT	ALT002 (31016)	Lat. S 29 38 Long. E 27 10	JAN 1979	YES		"
LT	ALT003 (31019)	Lat. S 29 47 Long. E 28 59	FEB 1979	YES		"
LT	ALT004 (31018)	Lat. S 29 28 Long. E 28 14	FEB 1979	YES		"
LT	ALT005 (31020)	Lat. S 28 46 Long. E 28 52	FEB 1979	YES		"
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES	
				Yes/ No	
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			

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REPORT PERIOD: UP TO 31 MARCH 1983MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
LIBERIA	(DMAHTC NO.)			Yes/ No	Estimated Completion Month	
LI	ALI001 (30900)	Lat. N 04° 51' Long. W 08 48	NOV 1977	YES		YES For details see Appendix B
LI	ALI002 (30902)	Lat. N 07 31 Long. W 08 31	NOV 1977	YES		"
LI	ALI003 (30903)	Lat. N 04 52 Long. W 07 37	NOV 1977	NO	*	"
LI	ALI004 (30904)	Lat. N 06 53 Long. W 10 50	DEC 1977	NO	*	"
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

*Not known at this time.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)
			DOPPLER (Month fin- ished)	GEOD. TIES	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES		Yes/ No	Estimated Completion Month
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			

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ADOS Form No. 5

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REPORT PERIOD: UP TO 31 MARCH 1983MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
MALAWI						
MI	AMI001 (31491)	Lat. S 16° 49' Long. E 35 15	SEP 1982	YES		YES For details see Appendix B
MI	AMI002 (31492)	Lat. S 15 52 Long. E 35 18	SEP 1982	YES		"
MI	AMI003 (31493)	Lat. S 14 20 Long. E 35 09	SEP 1982	YES		"
MI	AMI004 (31494)	Lat. S 13 39 Long. E 33 40	SEP 1982	YES		"
MI	AMI005 (31496)	Lat. S 11 39 Long. E 34 17	OCT 1982	YES		"
MI	AMI006 (31497)	Lat. S 09 39 Long. E 33 33	OCT 1982	YES		"
		Lat. Long.				
		Lat. Long.				

DOPPLER STATION INFORMATION			SURVEY STATUS			DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No	Estimated Completion Month	
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

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COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES	
				Yes/ No	
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			

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ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)

SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: UP TO 31 MARCH 1983

MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
MAURITANIA	(DMAHTC NO.)					
MR	AMR001 (80247)	Lat. N 16° 04' Long.W 13 23	MAR 1979	NO	*	YES For details see Appendix B
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

*Not known at this time.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES	
				Yes/ No	
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			

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D.C., 20315, U.S.A.
LAG/CSTG - Dr. I.I. Mueller, Dept. of Geodetic Science, The Ohio State
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ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: UP TO 31 MARCH 1983MAILING DATE: 11 APRIL 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
SENEGAL						
SG	ASG001 (80244)	Lat. N 14° 42' Long. W 17 09	FEB 1979	YES		YES For details see Appendix B
SG	ASG002 (80246)	Lat. N 16 02 Long. W 16 30	MAR 1979	NO	*	"
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

*Not known at this time.

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COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
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		Lat. Long.				
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ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)

SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

REPORT PERIOD: UP TO MAY 1983MAILING DATE: 1 JUNE 1983

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
SENEGAL						
SG	ASG003 (80492)	Lat. N 14° 06' Long.W 15 30	APR 1982	YES		YES For details see Appendix B
SG	ASG004 (80496)	Lat. N 14° 18' Long.W 12 28	MAY 1982	YES		"
SG	ASG005 (80504)	Lat. N 13° 10' Long.W 14 04	JUN 1982	*		"
SG	ASG006 (80506)	Lat. N 12° 47' Long.W 11 43	MAY 1982	*		"
SG	**ASG007 (80513)	Lat. N 14° 21' Long.W 14 03	MAY 1982	*		"
SG	ASG008 (80519)	Lat. N 12° 38' Long.W 12 47	MAY 1982	*		"
SG	ASG009 (80536)	Lat. N 13° 46' Long.W 12 52	MAY 1982	*		"
SG	ASG010 (80502)	Lat. N 13° 07' Long.W 15 35	APR 1982	*		"

*No information available for geodetic ties.

**Station rejected; insufficient data.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
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ADOS Form No. 5

AFRICAN DOPPLER SURVEY (ADOS)SURVEY STATUS REPORT

(To be mailed by the twenty-fifth of each month)

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DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES Yes/ No		
SUDAN	(DMAHTC NO.)			Estimated Completion Month		
SU	ASU001 (30567)	Lat. N 04° 45' Long. E 31 38	MAR 1978	YES		YES For details see Appendix B
SU	ASU002 (30570)	Lat. N 07 42 Long. E 28 00	FEB 1978	NO	*	"
SU	ASU003 (30566)	Lat. N 13 34 Long. E 25 13	JAN 1978	YES		"
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

*Not known at this time.

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES	
				Yes/ No	
		Lat. Long.			
		Lat. Long.			
		Lat. Long.			
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		Lat. Long.			
		Lat. Long.			
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COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
SWAZILAND	(DMAHTC NO.)					
WZ	AWZ001 (31487)	Lat. S 26° 50' Long. E 30 59	AUG 1982	YES		YES For details see Appendix B
WZ	AWZ002 (31488)	Lat. S 27 01 Long. E 31 52	AUG 1982	YES		"
WZ	AWZ003 (31486)	Lat. S 26 14 Long. E 32 02	AUG 1982	YES		"
WZ	AWZ004 (31485)	Lat. S 26 10 Long. E 31 03	AUG 1982	YES		"
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

DOPPLER STATION INFORMATION			SURVEY STATUS		DATA STATUS (Whether data dis- patched to designated Comp. Center)	
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
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[illegible]

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				Yes/ No	Estimated Completion Month	
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
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COUNTRY CODE	STATION NAME AND ADOS NO. (DMAHTC NO.)	APPROXIMATE STATION COORDINATES	DOPPLER (Month fin- ished)	GEOD. TIES		
				Yes/ No		Estimated Completion Month
ZIMBABWE						
ZI	AZI001 (31292)	Lat. S 21° 17' Long. E 30 49	JUN 1982	YES		YES For details see Appendix B
ZI	AZI002 (31294)	Lat. S 20 06 Long. E 29 09	JUN 1982	YES		"
ZI	AZI003 (31295)	Lat. S 18 40 Long. E 26 59	JUN 1982	YES		"
ZI	AZI004 (31290)	Lat. S 18 40 Long. E 32 13	MAY 1982	YES		"
ZI	AZI005 (31288)	Lat. S 17 01 Long. E 32 37	MAY 1982	YES		"
ZI	AZI006 (31289)	Lat. S 16 23 Long. E 30 16	MAY 1982	YES		"
		Lat. Long.				
		Lat. Long.				

DOPPLER STATION INFORMATION			SURVEY STATUS			DATA STATUS (Whether data dis- patched to designated Comp. Center)
			DOPPLER (Month- fin- ished)	GEOD. TIES		
COUNTRY CODE	STATION NAME AND ADOS NO.	APPROXIMATE STATION COORDINATES		Yes/ No	Estimated Completion Month	
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				
		Lat. Long.				

MAILED TO: Comp. Cen. No. 1 - Dr. B. Sikilo, Regional Center for Services in Surveying and Mapping, Nairobi, Kenya.
 Comp. Cen. No. 2 - Dr. John Critchley, Mapping and Charting Establishment RE, Elmwood Ave, Feltham, Middlesex TW13 7AF, U.K.
 Comp. Cen. No. 3 - Dr. M. Kumar, DMAHTC, 6500 Brookes Lane, Washington, D.C., 20315, U.S.A.
 IAG/CSTG - Dr. I.I. Mueller, Dept. of Geodetic Science, The Ohio State University, Columbus, OH., 43210, U.S.A.

A P P E N D I X B

ADOS PROJECT

DISTRIBUTION DATES FOR DOPPLER DATA (AS AVAILABLE WITH DMAHTC)

AFRICAN COUNTRY	YEAR OF OBSERVATION	ADOS STATION NUMBER	DISTRIBUTION DATE	REMARKS
1. Botswana	1976	ABC001, ABC002, ABC003, ABC004, ABC005, ABC006, ABC007, ABC008, ABC009	6 May 1983	See ADOS Form No.5 for Botswana (Appendix A)
2. Canary Is.	1978	ASP001	2 May 1983	See ADOS Form No.5 for Canary Is. (Appendix A)
3. Cape Verde Is.	1979	ACV001, ACV002, ACV003, ACV004, ACV005, ACV006, ACV007	15 Apr 1983	See ADOS Form No.5 for Cape Verde Is. (Appendix A)
4. Egypt	1977	AEG002, AEG003, AEG005, AEG008, AEG009, AEG015	13 May 1983	See ADOS Form No.5 for Egypt (Appendix A)
	1978	AEG001, AEG004, AEG007, AEG016	2 May 1983	See ADOS Form No.5 for Egypt (Appendix A)
	1982	AEG006, AEG010, AEG011, AEG012, AEG013, AEG014	3 Jun 1983	See ADOS Form No.5 for Egypt (Appendix A)
5. Gambia	1982	AGA001	13 Jun 1983	See ADOS Form No.5 for Gambia (Appendix A)
6. Guinea	1982	AGV001, AGV002, AGV003	13 Jun 1983	See ADOS Form No.5 for Guinea (Appendix A)

ADOS PROJECT

DISTRIBUTION DATES FOR DOPPLER DATA (AS AVAILABLE WITH DMAHTC)

AFRICAN COUNTRY	YEAR OF OBSERVATION	ADOS STATION NUMBER	DISTRIBUTION DATE	REMARKS
7. Ivory Coast	1980	AIV001	3 Jun 1983	See ADOS Form No.5 for Ivory Coast (Appendix A)
	1980	AIV003, AIV004, AIV005	13 May 1983	See ADOS Form No.5 for Ivory Coast (Appendix A)
	1981	AIV002, AIV006	3 Jun 1983	See ADOS Form No.5 for Ivory Coast (Appendix A)
	1982	AIV007, AIV008, AIV009	13 Jun 1983	See ADOS Form No.5 for Ivory Coast (Appendix A)
8. Lesotho	1979	ALT001, ALT002, ALT003, ALT004, ALT005	15 Apr 1983	See ADOS Form No.5 for Lesotho (Appendix A)
9. Liberia	1977	ALI001, ALI002, ALI003, ALI004	13 May 1983	See ADOS Form No.5 for Liberia (Appendix A)
10. Malawi	1982	AMI001, AMI002, AMI003, AMI004, AMI005, AMI006	3 Jun 1983	See ADOS Form No.5 for Malawi (Appendix A)
11. Mali	1979	AML001	15 Apr 1983	See ADOS Form No.5 for Mali (Appendix A)

A D O S P R O J E C T

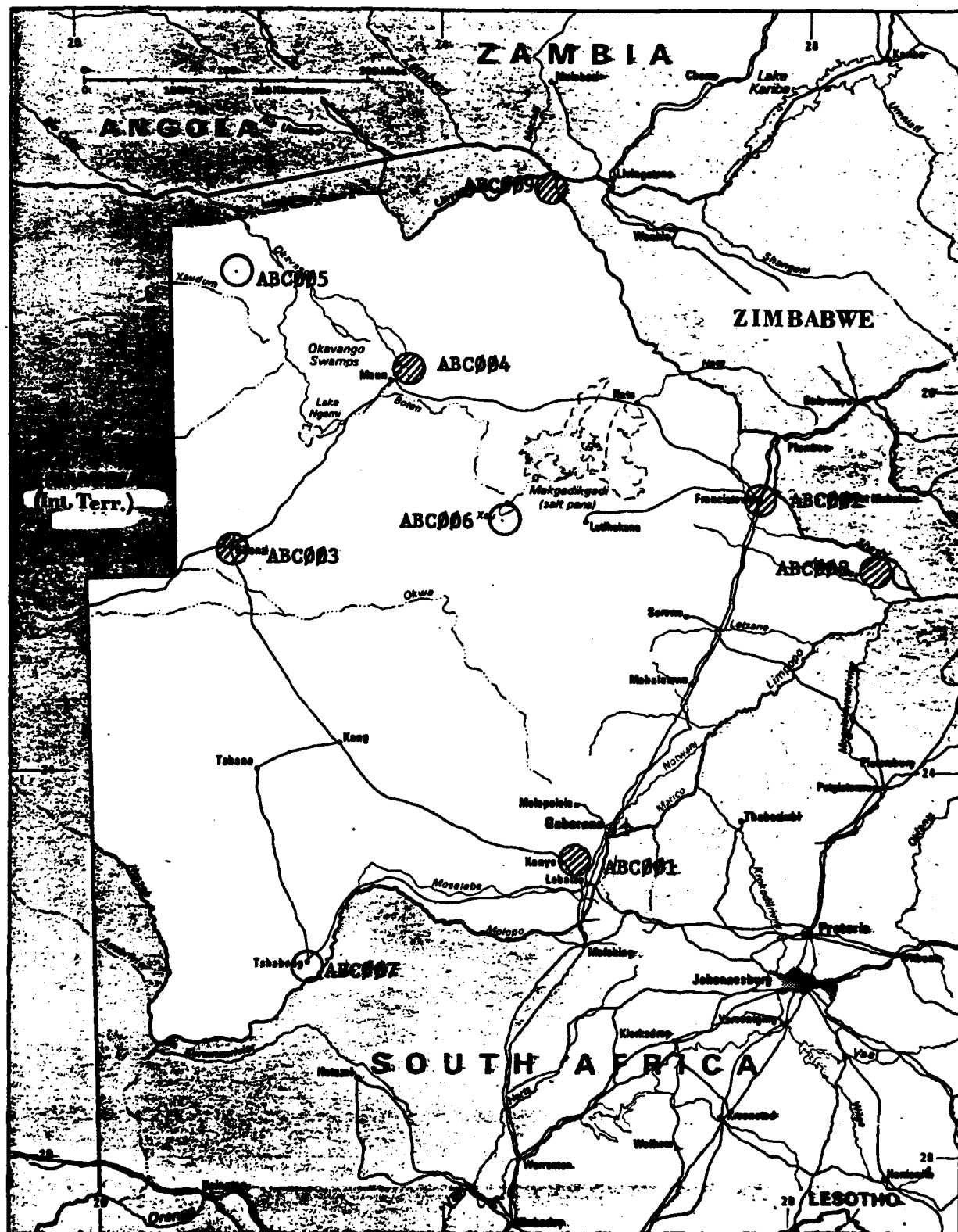
DISTRIBUTION DATES FOR DOPPLER DATA (AS AVAILABLE WITH DMAHTC)

AFRICAN COUNTRY	YEAR OF OBSERVATION	ADOS STATION NUMBER	DISTRIBUTION DATE	REMARKS
12. Mauritania	1979	AMR001	15 Apr 1983	See ADOS Form No.5 for Mauritania (Appendix A)
13. Senegal	1979	ASG001, ASG002	15 Apr 1983	See ADOS Form No.5 for Senegal (Appendix A)
	1982	ASG003, ASG004, ASG005, ASG006, ASG007, ASG008, ASG009, ASG010	13 Jun 1983	See ADOS Form No.5 for Senegal (Appendix A)
14. Sudan	1978	ASU001, ASU002, ASU003	2 May 1983	See ADOS Form No.5 for Sudan (Appendix A)
15. Swaziland	1982	AWZ001, AWZ002, AWZ003, AWZ004	3 Jun 1983	See ADOS Form No.5 for Swaziland (Appendix A)
16. Zaire	1982	ACG001	3 Jun 1983	See ADOS Form No.5 for Zaire (Appendix A)
17. Zimbabwe	1982	AZI001, AZI002, AZI003, AZI004, AZI005, AZI006	3 Jun 1983	See ADOS Form No.5 for Zimbabwe (Appendix A)

A P P E N D I X C

Botswana

Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government



882708 9-77 (541800)
Lambert Conformal Projection
Standard parallels 6° and 30°
Scale 1:6,000,000
Boundary representation is not necessarily authoritative

OBSERVED BY THE UNITED KINGDOM

Completed stations

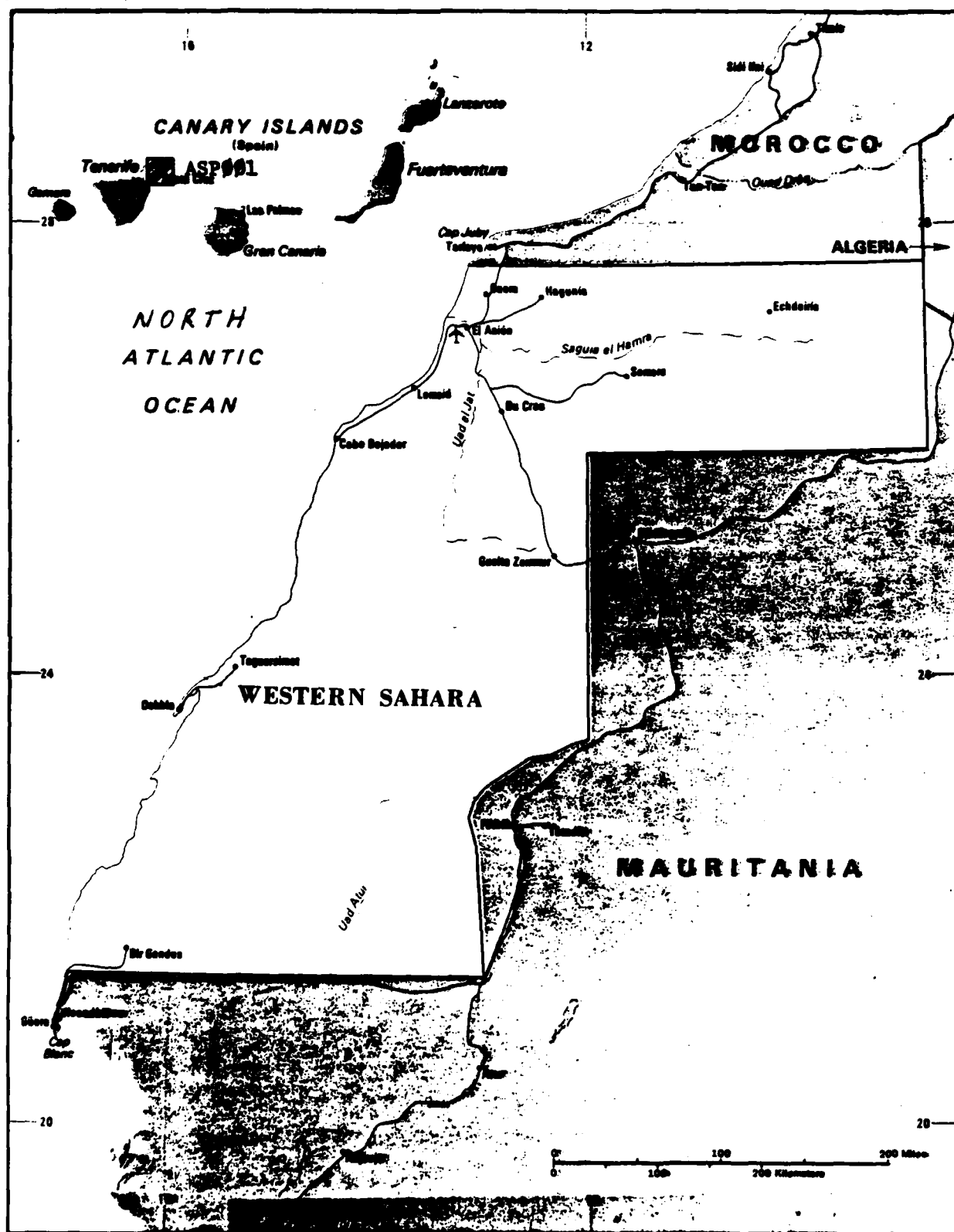
ADOS specifications not met (25-39 passes)

Boundary representation is not necessarily authoritative

Railroad
Road
Airport

Reproduced from best available copy.

Canary Islands (Spain)



500742 9-77 (541040)
 Lambert Conformal Projection
 Standard parallels 6° and 32°
 Scale 1:5,000,000

Geographic names or their spellings
 do not necessarily reflect recognition
 of the political status of an area
 by the US government

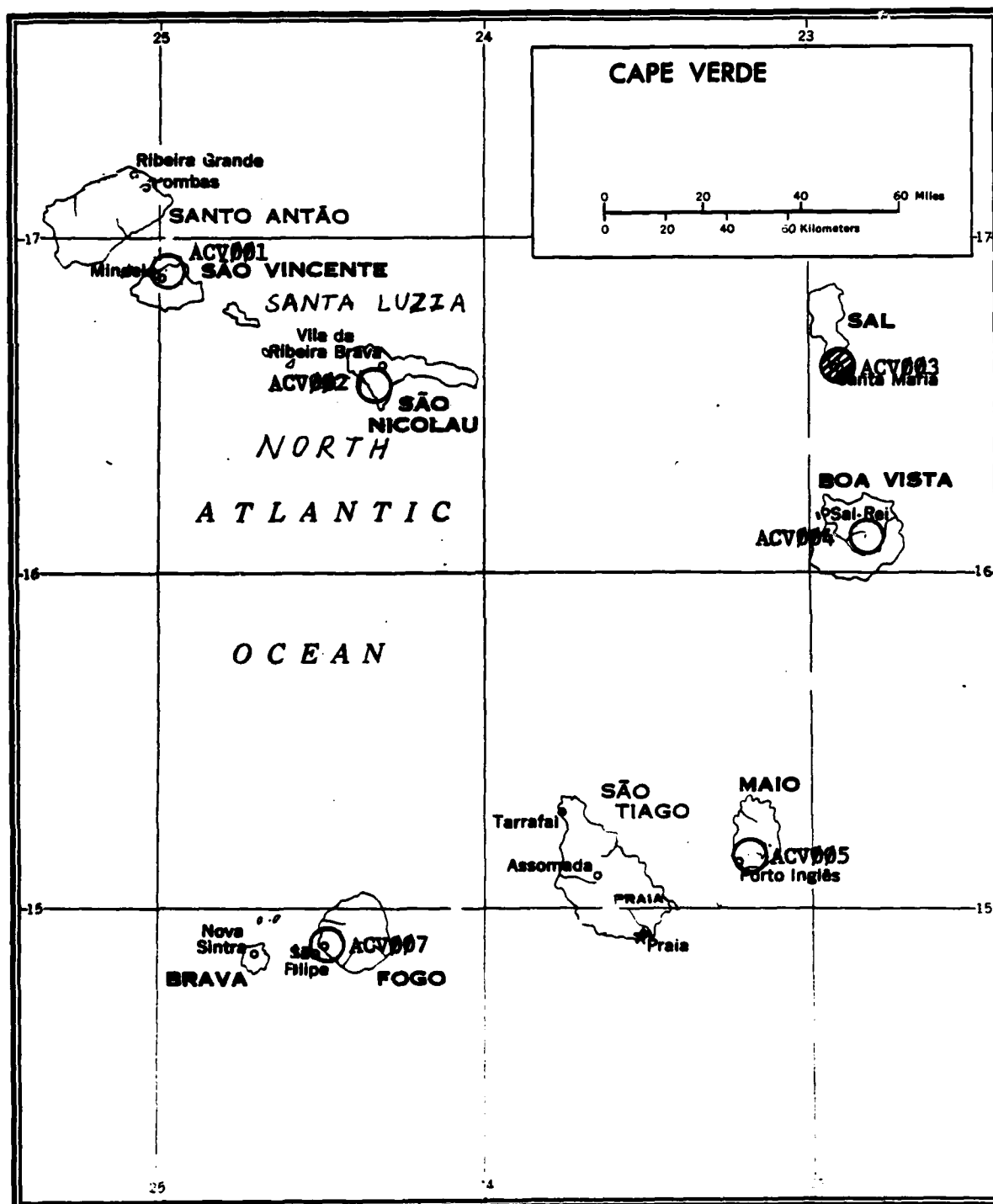
Boundary representation is
 not necessarily authoritative

OBSERVED BY THE UNITED STATES

- ☒ Completed stations
- ☐ ADOS specifications not met (25-39 passes)

— Railroad
 — Road
 ✈ Airport

Reproduced from
 best available copy.



77738 11-70

Boundary representation is
not necessarily authoritative

OBSERVED BY THE UNITED KINGDOM



Completed stations



ADOS specifications not met (25-39 passes)

Geographic names or their spellings
do not necessarily reflect recognition
of the political status of an area
by the US government

The map displays the geographical features of Senegal and Guinea-Bissau. Senegal is shown with its major cities and rivers, while Guinea-Bissau is shown to the east. The Atlantic Ocean is to the west. A scale bar at the top indicates distances up to 50 miles and 50 kilometers. A compass rose is located in the bottom right corner.




Lambert Conformal Projection
Standard parallels 6° and 32°
Scale 1:1,600,000

OBSERVED BY THE UNITED STATES

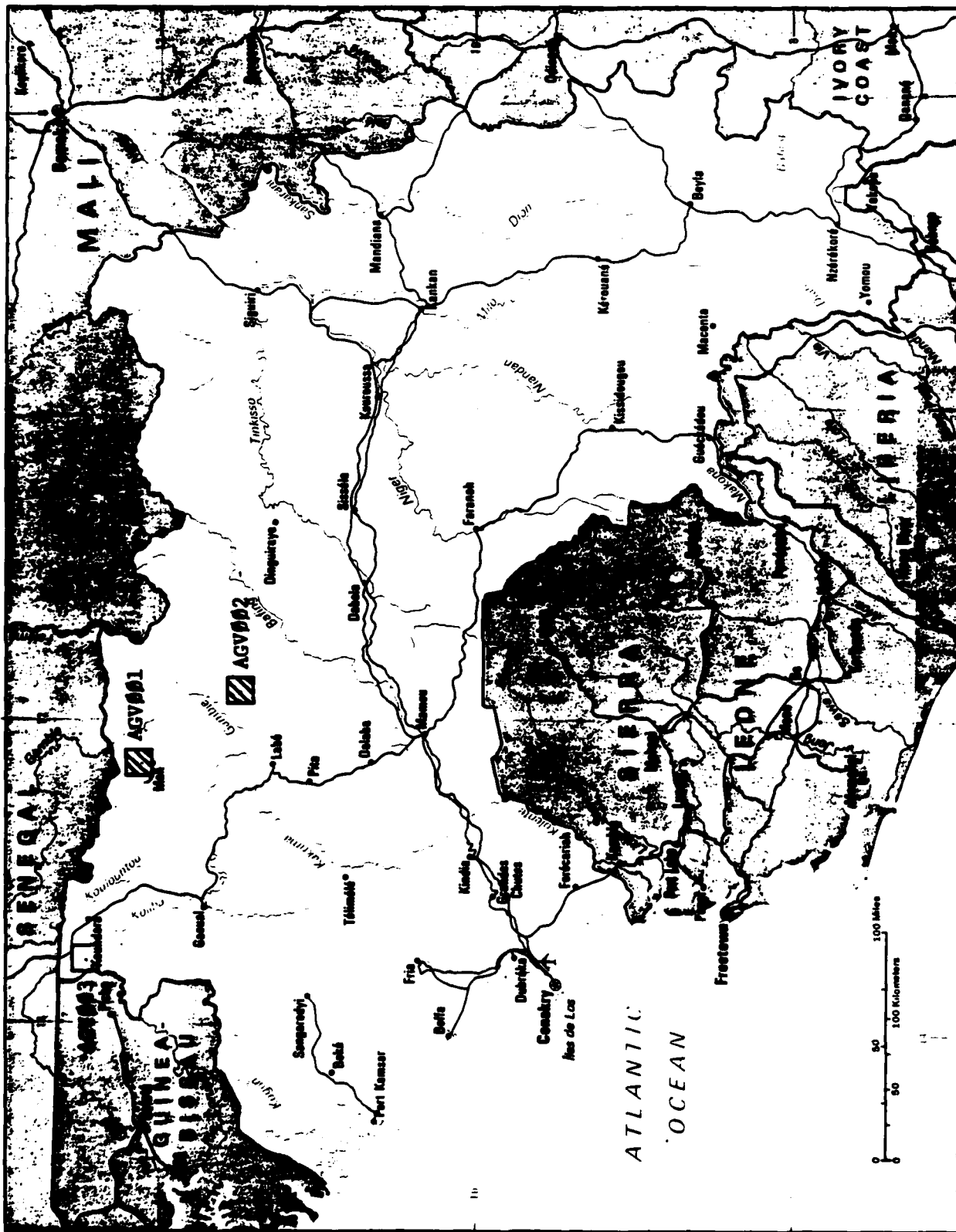
Completed stations	Station	Remarks
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☐ ADOS specifications not met (25-39 passes)

geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government

 Railroad
 Road
 Airport

Guinea



502719 9 77 (542154)
 Lambert Conformal Projection
 Standard parallels 8° and 32°
 Scale 1:4,000,000

Boundary representation is
 not necessarily authoritative

OBSERVED BY THE UNITED STATES

Geographic names or their spellings
 do not necessarily reflect recognition
 of the political status of an area
 by the US Government

Completed stations

ADOS specifications not met (25-39 passes)

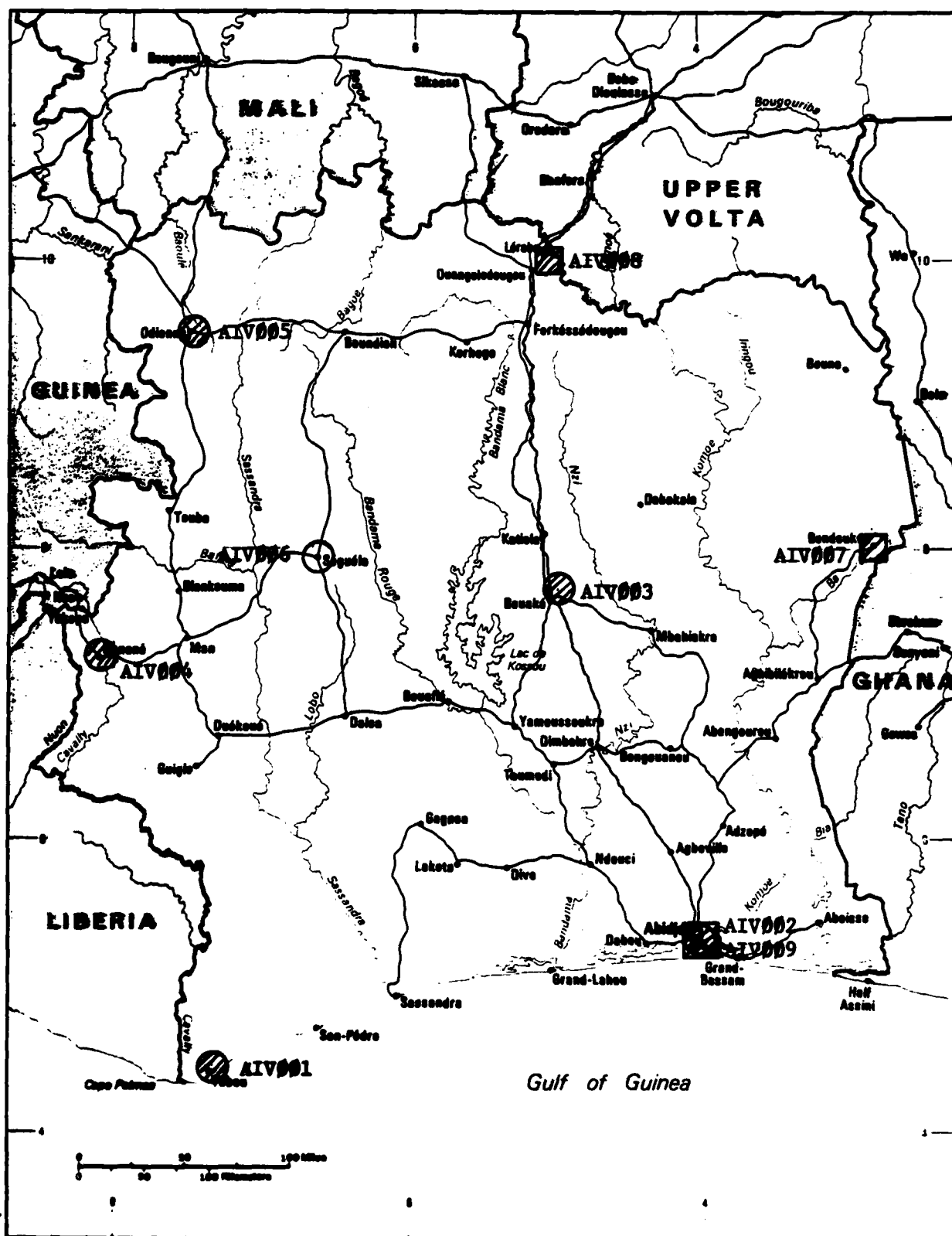
— Railroad
 — Road
 ✈ Airport

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 best available copy.

Ivory Coast

Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government

Boundary representation is not necessarily authoritative



OSR 9-77 (400000)

OBSERVED BY THE UNITED KINGDOM

- Completed Stations
- ADOS specifications not met (25-39 passes)

OBSERVED BY WEST GERMANY

- ▨ Completed stations
- ADOS specifications not met (25-39 passes)

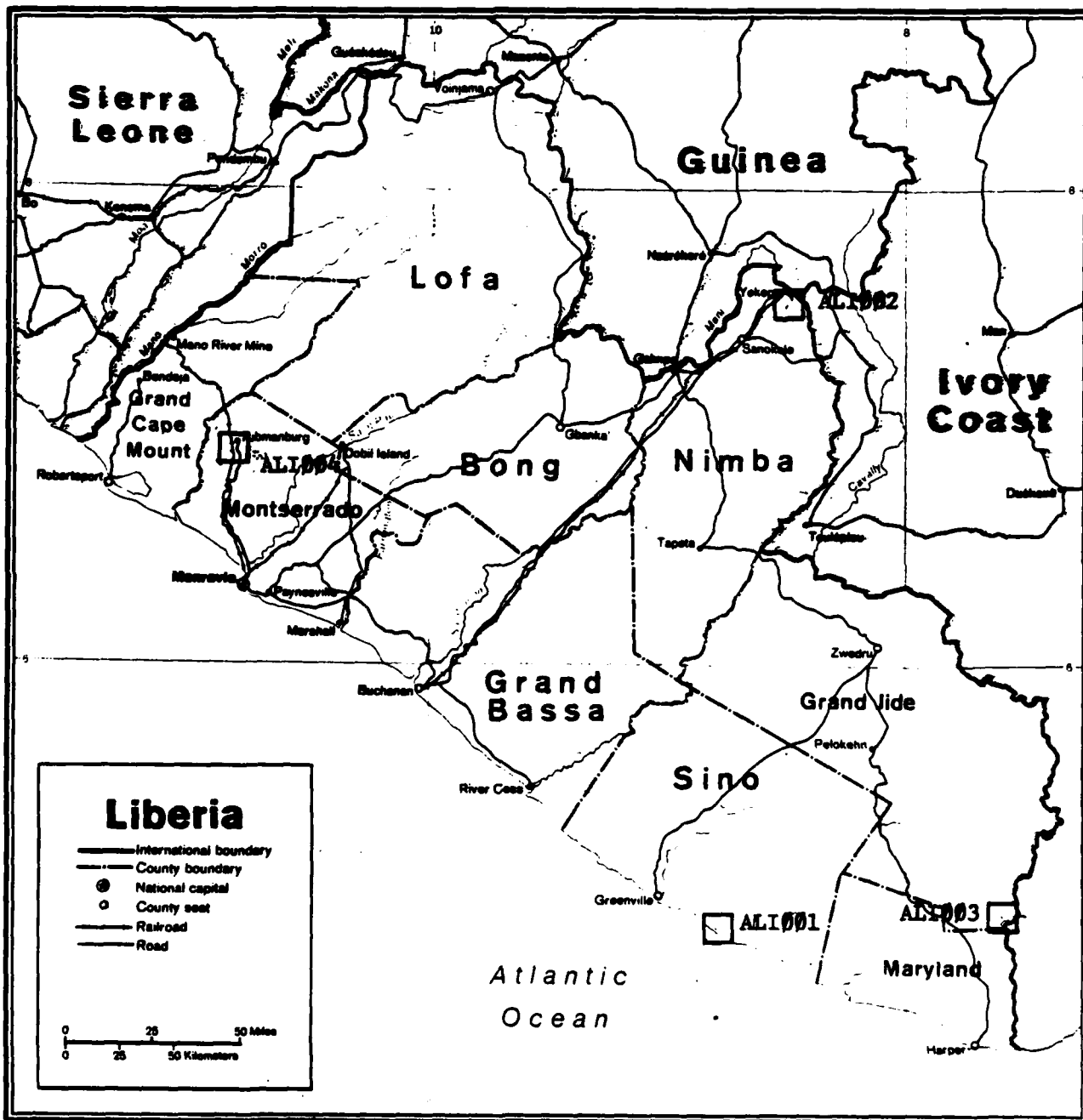
[illegible]

— Railroad
— Road

Geographic names or their spellings
do not necessarily reflect recognition
of the political status of an area
by the US government.

Completed stations

○ ADOS specifications not met (25-39 passes)



Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government.

Boundary representation is not necessarily authoritative.

OBSERVED BY THE UNITED STATES

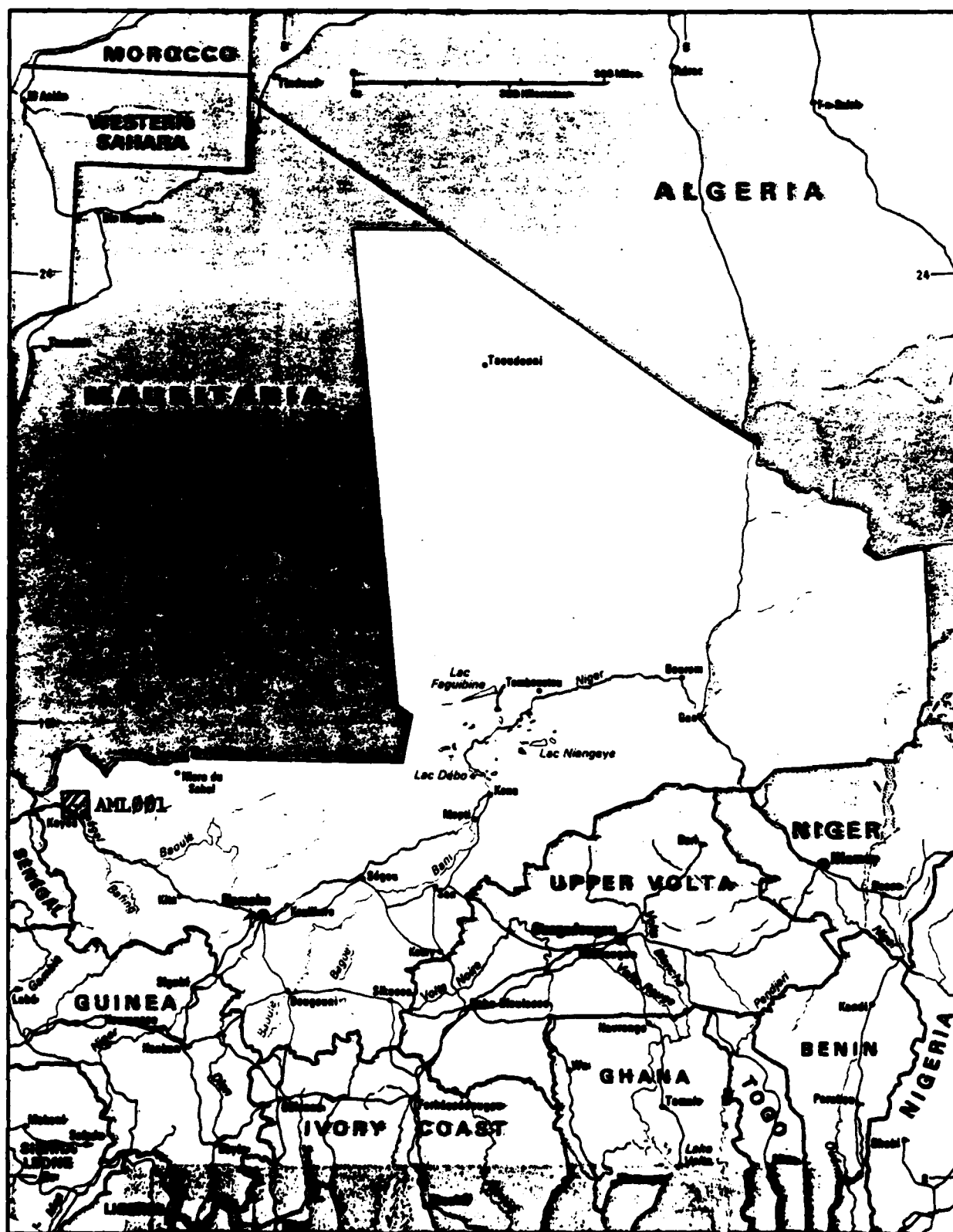
Completed stations

ADOS specifications not met (25-39 passes)

This map of Southern Africa displays the borders of Zambia, Tanzania, Mozambique, and Zimbabwe. Five locations are specifically marked with circles and labeled with codes: AMI000 (near Karonga), AMI003 (near Lake Nyasa), AMI004 (near Lilongwe), AMI003 (near Monkey Bay), and AMI002 (near Mulanje). The map includes major rivers such as the Zambezi, Save, Limpopo, and Shire. A scale bar in the top right corner indicates distances up to 100 miles. The map is oriented with North at the top.

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best available copy.

Mali



682726 9-77 (542504)
 Lambert Conformal Projection
 Standard parallels 6° and 22°
 Scale 1:1,000,000
 Boundary representation is
 not necessarily authoritative

OBSERVED BY THE UNITED STATES

Boundary representation is
 not necessarily authoritative

— Railroad
 — Road
 ↑ Airport

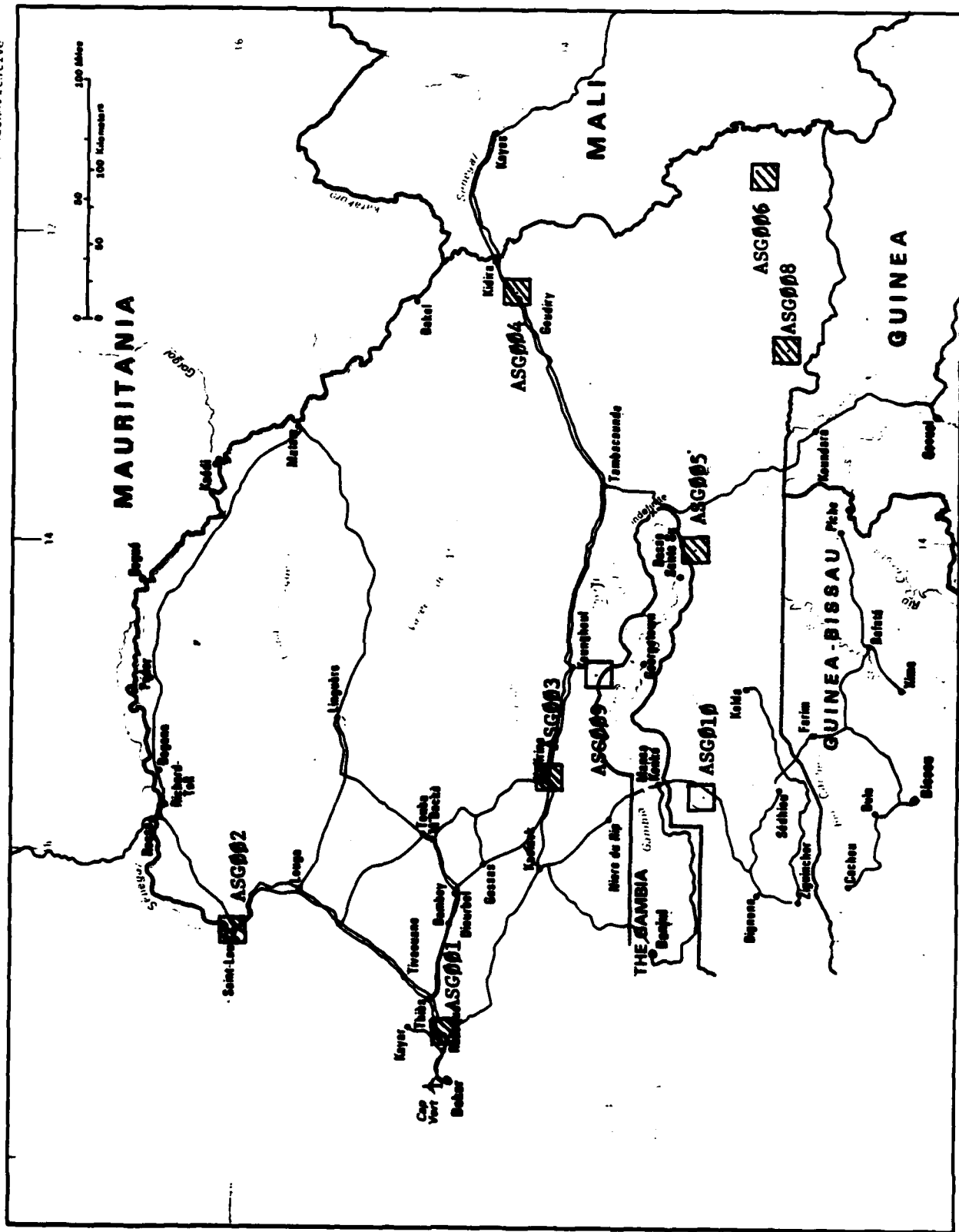
Geographic names or their spellings
 do not necessarily reflect recognition
 of the political status of an area
 by the US government

☒ Completed stations
☐ ADOS specifications not met (25-39 passes)

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Senegal

Boundary representation is
not necessarily authoritative



802728 9-77 (541354)
Lambert Conformal Projection
Standard parallel 6° and 32°
Scale 1:3,800,000
Boundary representation is
not necessarily authoritative

OBSERVED BY THE UNITED STATES

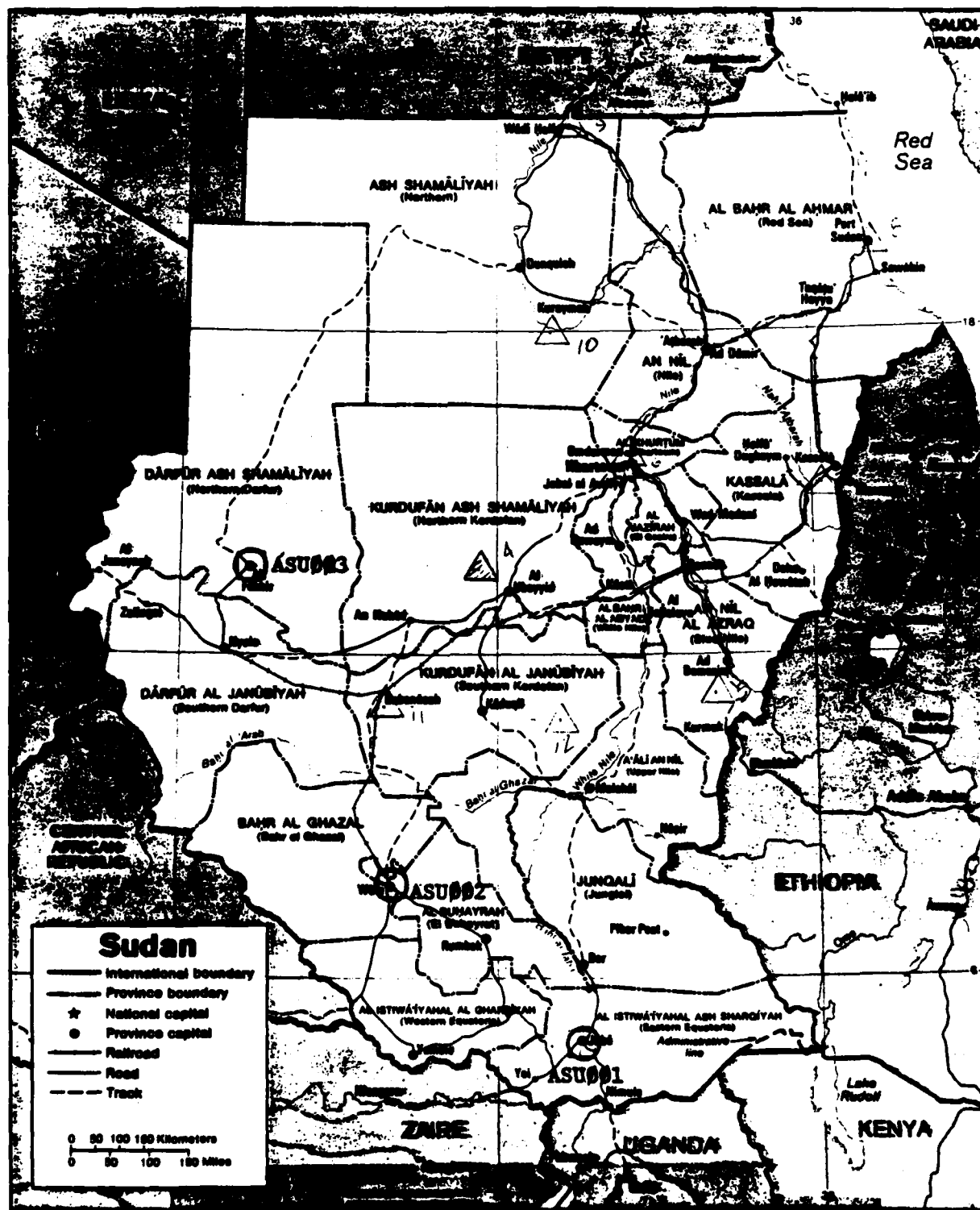
Geographic names or their spellings
do not necessarily reflect recognition
of the political status of an area
by the US government

Completed stations



ADOS specifications not met (25-39, 25-39)

— Railroad
— Road
— Airport



Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government.

Boundary representation is not necessarily authoritative.

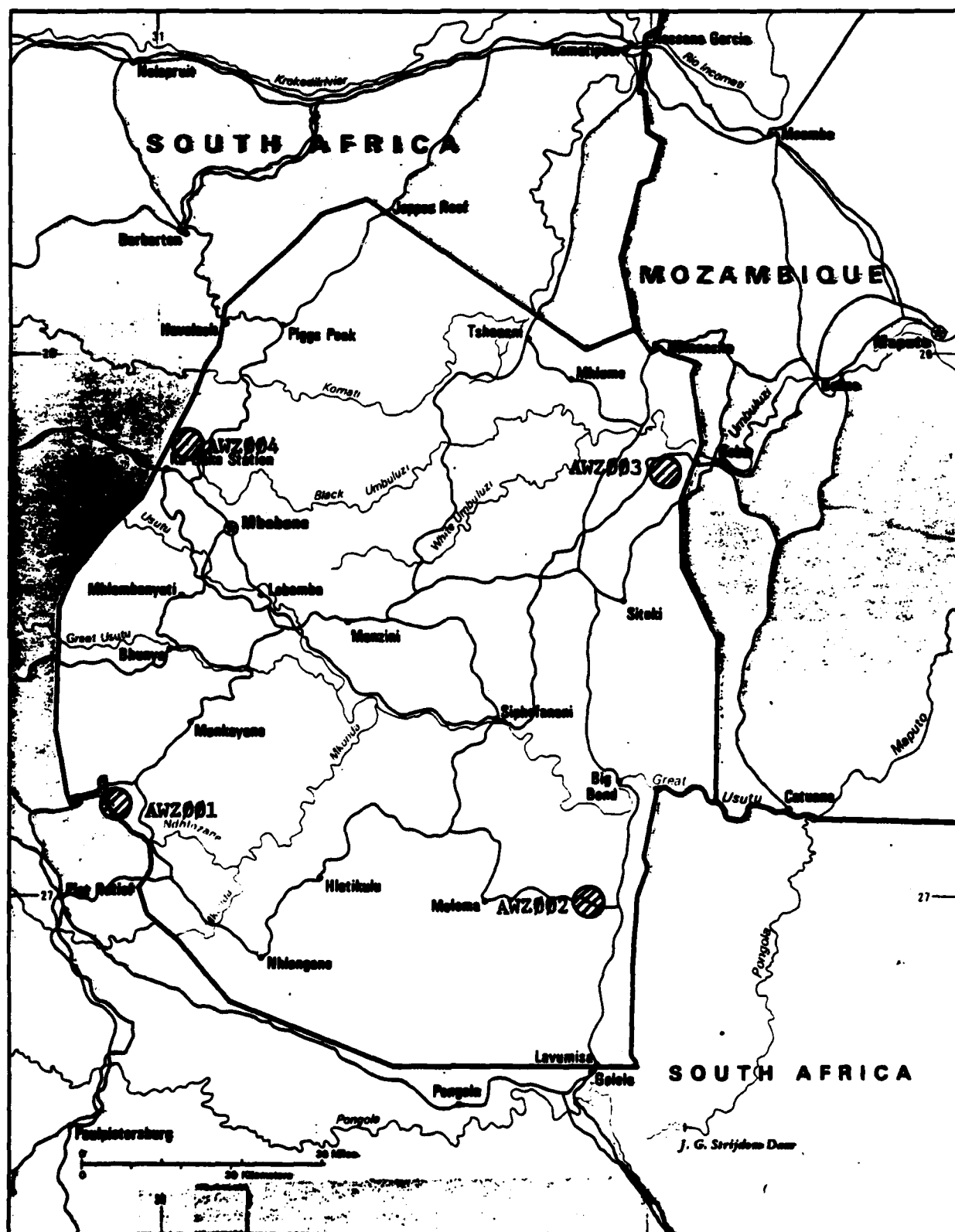
OBSERVED BY THE UNITED KINGDOM

Completed stations

ADOS specifications not met (25-39 passes)

Reproduced from best available copy.

Swaziland



002746 9-77 (841000)
Lambert Conformal Projection
Standard parallels 6° and 30°
Scale 1:1,150,000

Geographic names or their spellings
do not necessarily reflect recognition
of the political status of an area
by the US government

OBSERVED BY THE UNITED KINGDOM

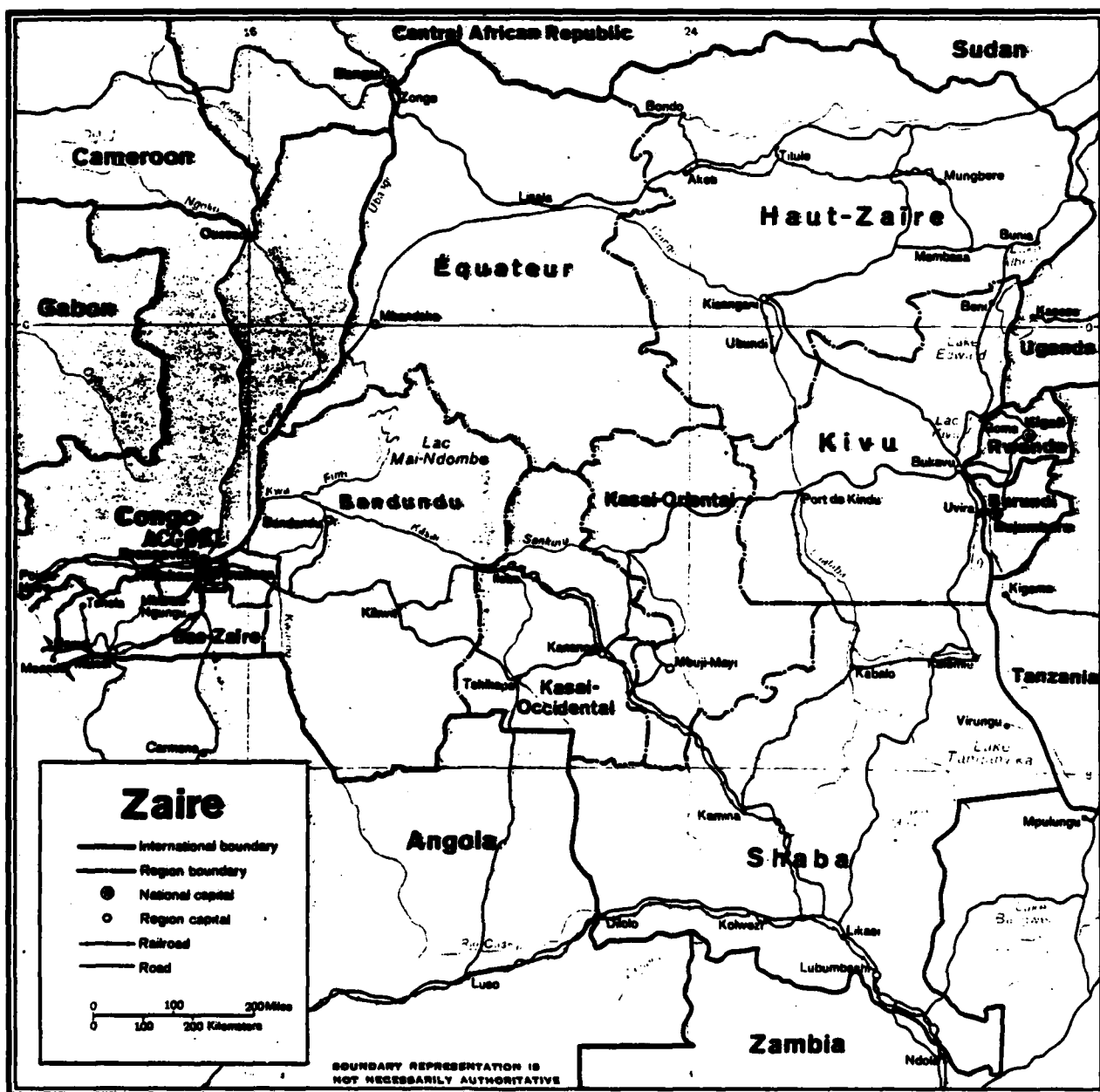
Completed stations

ADOS specifications not met (25-39 passes)

Boundary representation is
not necessarily authoritative

— Railroad
— Road

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best available copy.



500894 3-73

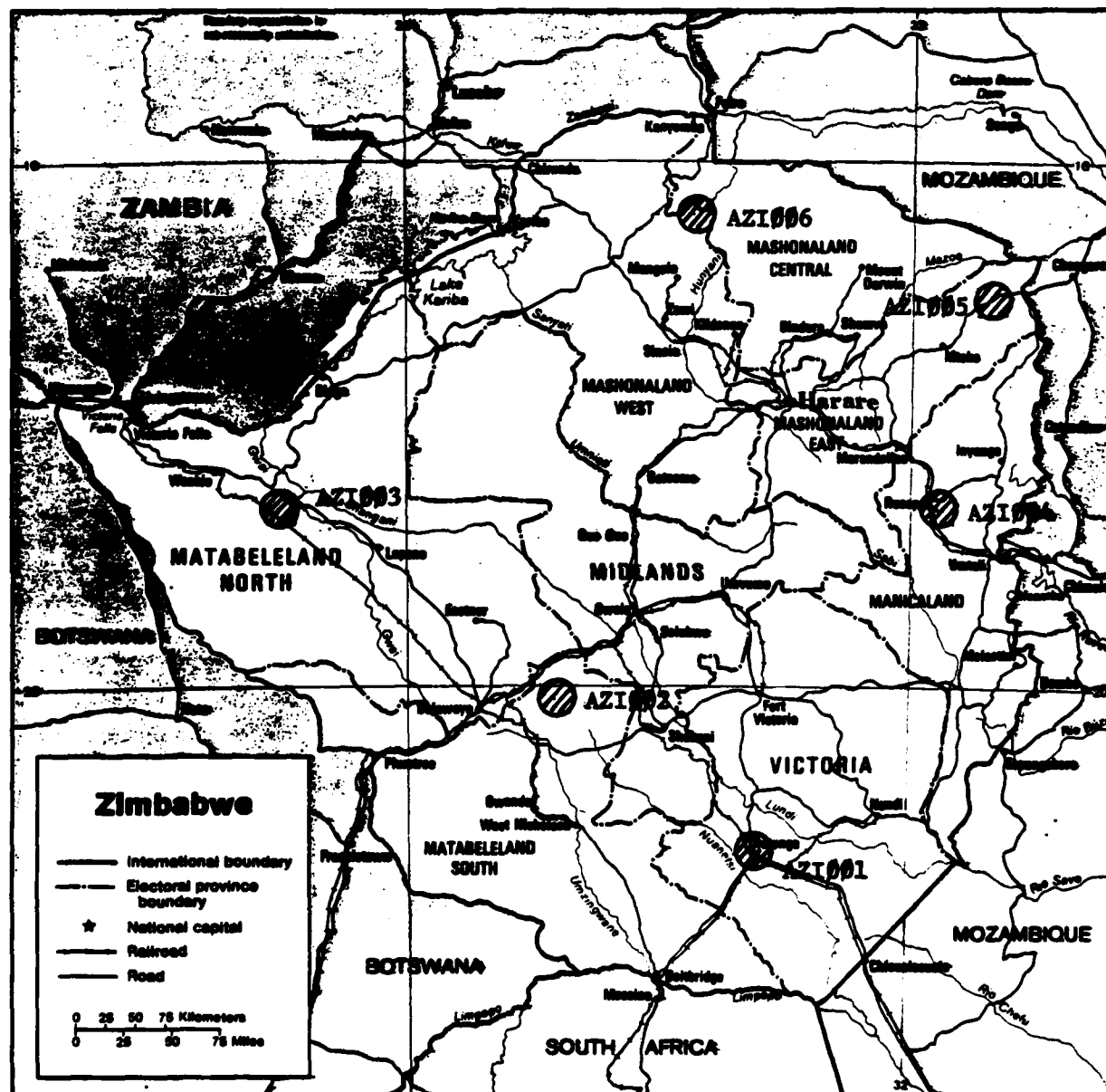
Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government

Boundary representation is not necessarily authoritative

OBSERVED BY THE UNITED STATES

☒ Completed stations

☐ ADOS specifications not met (25-39 passes)



Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the US government.

OBSERVED BY THE UNITED KINGDOM

Boundary representation is not necessarily authoritative

● Completed stations

○ ADOS specifications not met (25-39 passes)

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APPENDIX D

ADOS STATION COORDINATES

Country	Computed Station Coordinates* in NSWC 92-2 System		
	Latitude	Longitude	Ell. Height (m)
<u>BOTSWANA</u>			
ABCøø1	25°00'07.207S	25°18'32.926E	1495.86
ABCøø2	21 09 06.699S	27 30 36.960E	1111.06
ABCøø3	21 42 10.625S	21 29 00.660E	1179.20
ABCøø4	19 48 46.982S	23 37 31.372E	954.62
ABCøø5	18 45 01.460S	21 42 33.476E	1016.03
ABCøø6	21 24 27.594S	24 39 39.015E	978.86
ABCøø7	26 05 47.804S	22 22 18.683E	1069.57
ABCøø8	21 54 24.938S	28 54 50.475E	749.36
<u>CANARY IS.</u>			
ASPøø1	28 28 54.297N	343 40 55.730E	620.71
<u>CAPE VERDE</u>			
ACVøø1	16 50 27.482N	335 02 06.040E	87.68
ACVøø2	16 33 11.796N	335 38 31.237E	35.41
ACVøø3	16 35 46.421N	337 06 35.160E	33.67
ACVøø4	16 04 59.794N	337 09 45.243E	62.68
ACVøø5	15 08 41.067N	336 47 23.377E	69.88
ACVøø7	14 53 49.493N	335 30 07.678E	124.84

*Using DOPPLER 79 Software.

ADOS STATION COORDINATES

Country	Computed Station Coordinates* in NSWC 92-2 System		
	Latitude	Longitude	Ell. Height (m)
<u>EGYPT</u>			
AEGØØ1	23 56 26.581N	35 23 49.723E	78.01
AEGØØ2	29 51 35.801N	32 30 15.754E	14.46
AEGØØ3	31 31 25.306N	31 50 53.646E	12.24
AEGØØ4	24 02 28.739N	32 49 57.257E	201.73
AEGØØ5	31 18 59.497N	27 17 50.426E	54.50
AEGØØ6	22 17 25.133N	29 46 41.897E	270.98
AEGØØ7	25 31 41.093N	30 38 54.138E	70.99
AEGØØ8	28 23 00.105N	29 05 51.036E	277.43
<u>GAMBIA</u>			
AGAØØ1	+ 13 29 20.720N	343 19 56.870E	28.35
<u>GUINEA</u>			
AGVØØ1	+ 12 04 44.063N	347 41 58.382E	1491.48
AGVØØ2	+ 11 29 27.485N	348 09 34.923E	817.11
AGVØØ3	+ 12 25 30.732N	346 21 58.736E	145.73
<u>IVORY COAST</u>			
AIVØØ1	4 25 13.988N	352 38 31.410E	53.77
AIVØØ2	5 19 36.255N	355 59 38.648E	153.72
AIVØØ3	7 42 04.830N	354 59 51.846E	373.64
AIVØØ4	7 15 10.584N	351 50 34.709E	410.41
AIVØØ5	9 30 04.447N	352 26 10.342E	461.87
AIVØØ6	7 57 31.735N	353 19 10.765E	404.38
AIVØØ7	8 02 41.806N	357 12 19.146E	423.75
AIVØØ8	9 58 35.160N	354 50 29.157E	370.99
AIVØØ9	5 19 36.134N	355 59 38.611E	154.04

+ ANTENNA ELECTRICAL CENTER

*Using DOPPLER 79 Software.

ADOS STATION COORDINATES

Country	Computed Station Coordinates* in NSWC 9Z-2 System		
	Latitude	Longitude	Ell. Height (m)
<u>LESOTHO</u>			
ALT $\phi\phi 1$	30 25 36.582S	27 36 28.690E	1816.21
ALT $\phi\phi 2$	29 38 20.012S	27 09 39.434E	1864.83
ALT $\phi\phi 3$	29 46 54.762S	28 59 10.081E	3457.98
ALT $\phi\phi 4$	29 27 51.504S	28 13 52.295E	2924.20
ALT $\phi\phi 5$	28 46 20.370S	28 52 21.985E	3319.11

ADOS STATION COORDINATES

Country	Computed Station Coordinates* in NSWC 92-2 System		
	Latitude	Longitude	Ell. Height (m)
<u>LIBERIA</u>			
ALI 001	04 51 14.691 N	351 12 26.034 E	24.72
ALI 002	07 31 12.191 N	351 28 54.400 E	1410.49
ALI 003	04 52 01.760 N	352 22 50.679 E	156.90
ALI 004	06 52 55.476 N	349 10 19.083 E	83.71
<u>MALAWI</u>			
AMI 001	16 48 36.631 S	35 15 19.919 E	165.37
AMI 002	15 52 19.422 S	35 17 48.345 E	765.54
AMI 003	14 19 38.828 S	35 08 55.231 E	612.15
AMI 004	13 39 14.656 S	33 39 40.528 E	1419.42
AMI 005	11 39 25.111 S	34 16 59.816 E	901.52
AMI 006	09 39 10.660 S	33 32 31.441 E	1875.67
<u>MALI</u>			
AML 001	14 28 43.594 N	348 28 56.937 E	64.48
<u>MAURITANIA</u>			
AMR 001	16 03 42.148 N	346 37 22.248 E	82.52

ADOS STATION COORDINATES

Country	Computed Station Coordinates* in NSWC 92-2 System		
	Latitude	Longitude	Ell. Height (m)
<u>SENEGAL</u>			
ASG001	14 41 41.276 N	342 51 24.290 E	100.02
ASG002	16 01 33.678 N	343 29 45.038 E	48.91
ASG003	14 05 58.647 N	344 29 45.706 E	61.30
ASG004	14 17 57.240 N	347 31 53.429 E	158.25
ASG005	13 09 40.344 N	345 55 38.224 E	81.45
ASG006	12 47 12.208 N	348 17 07.702 E	184.53
ASG007	14 20 56.172 N	345 56 42.482 E	77.23
ASG008	12 37 44.850 N	347 12 30.871 E	116.77
ASG009	13 45 44.135 N	347 08 21.874 E	73.27
ASG010	13 07 03.349 N	344 24 32.477 E	60.06
<u>SUDAN</u>			
ASU001	04 45 19.864 N	31 37 50.485 E	629.30
ASU002	07 41 48.586 N	28 00 01.040 E	445.82
ASU003	13 33 59.018 N	25 13 15.507 E	802.79
<u>SWAZILAND</u>			
AWZ001	26 49 44.375 S	30 58 39.052 E	1394.73
AWZ002	27 01 12.972 S	31 51 47.987 E	428.66
AWZ003	26 13 40.048 S	32 01 40.906 E	594.13
AWZ004	26 10 13.416 S	31 03 09.965 E	1846.54
<u>ZAIRE</u>			
ACG001	04 18 19.053 S	15 18 03.973 E	319.77

ADOS STATION COORDINATES

Country	Computed Station Coordinates* in NSWC 92-2 System		
	Latitude	Longitude	Ell. Height (m)
<u>ZIMBABWE</u>			
AZ1001	21 17 11.456 S	30 49 18.739 E	689.85
AZ1002	20 05 56.663 S	29 09 13.978 E	1268.28
AZ1003	18 40 12.749 S	26 58 45.508 E	1091.53
AZ1004	18 39 36.506 S	32 12 53.313 E	1380.91
AZ1005	17 01 02.925 S	32 37 19.721 E	889.57
AZ1006	16 22 37.108 S	30 15 41.807 E	1192.55